



Overscan corrections: DM studies

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In collaboration with many people

CVT meeting

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Data analysis

- BOT Run 5 data copied at FrDF
- Butler with a PostgreSQL registry database created
 - Access granted to users
 - Ingestion of all raw data
 - Export/import/certification of calibrations in progress
- Analysis performed fully inside DM
 - Master bias and overscan correction
 - Batch jobs
- Runs considered
 - 13162: biasMaster bias built from 20 bias exposures
 - 13161: bias + darkApply master bias subtraction

1D

stack: w_2022_52

```
doOverscan: true  
overscan.doParallelOverscan: false  
overscan.fitType: 'MEDIAN_PER_ROW'
```

2D

stack: w_2023_05

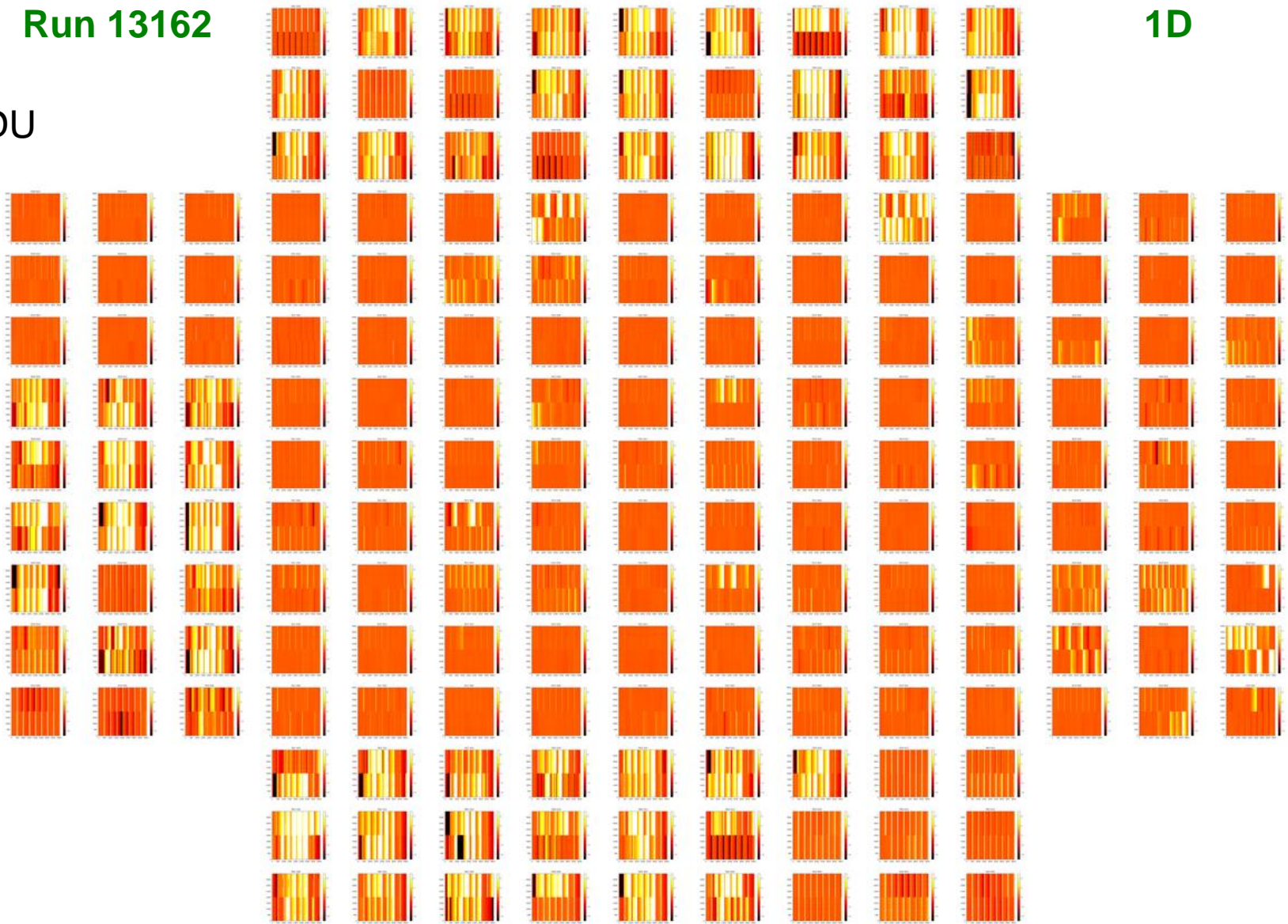
ip_isr: main version
(03/02/23)

Master bias

Run 13162

1D

± 5 ADU

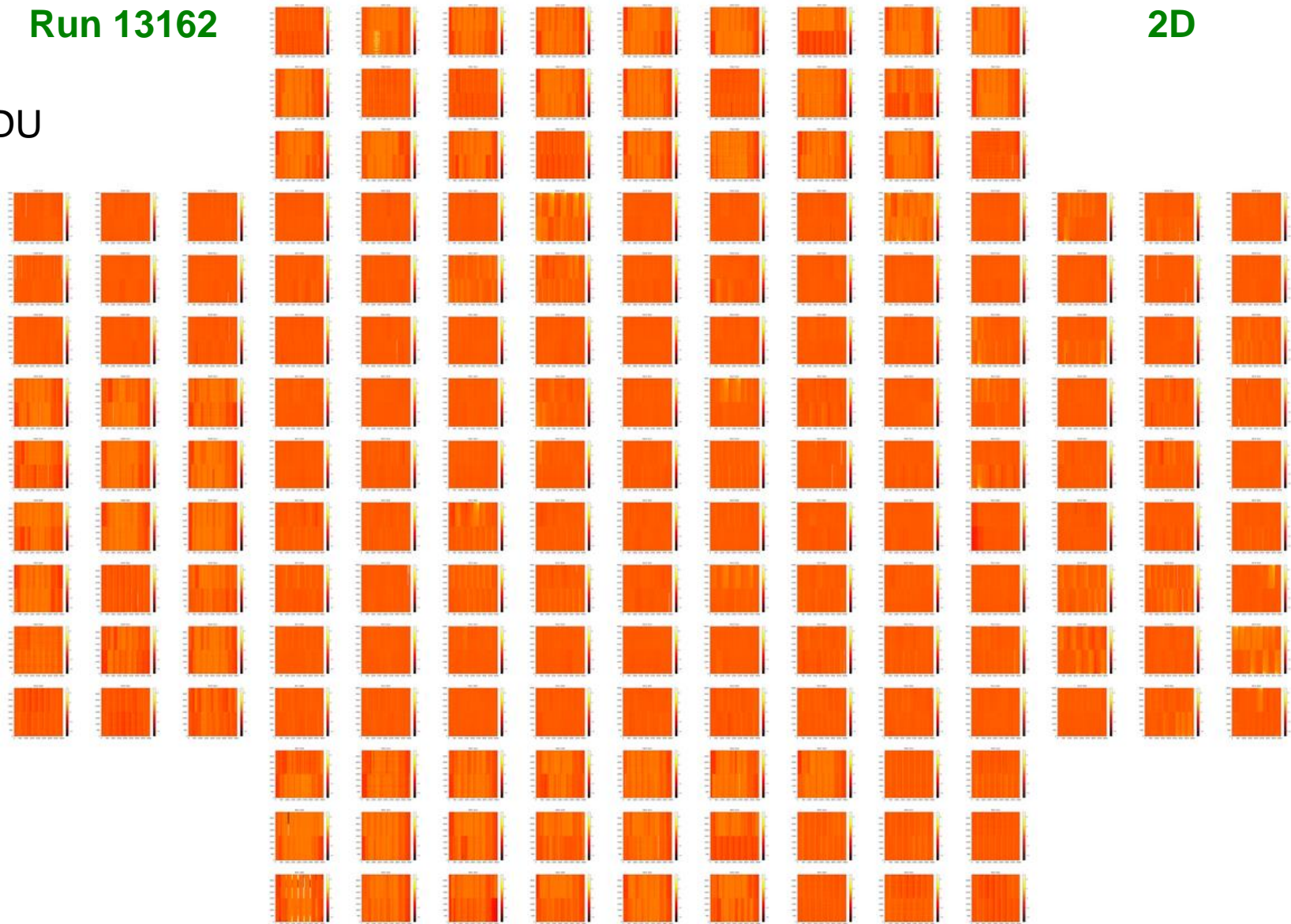


Master bias

Run 13162

2D

± 5 ADU

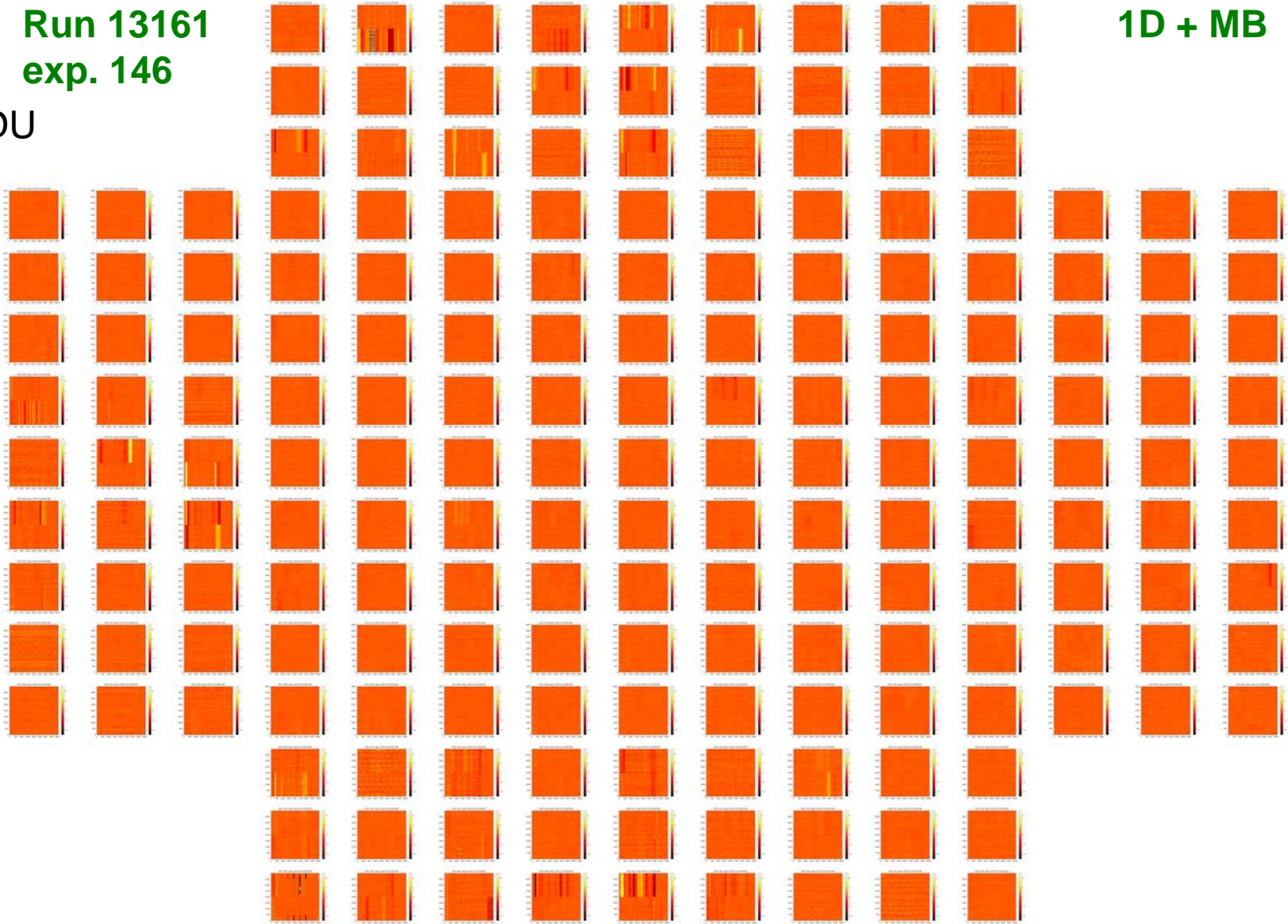


Bias

Run 13161
exp. 146

1D + MB

± 5 ADU

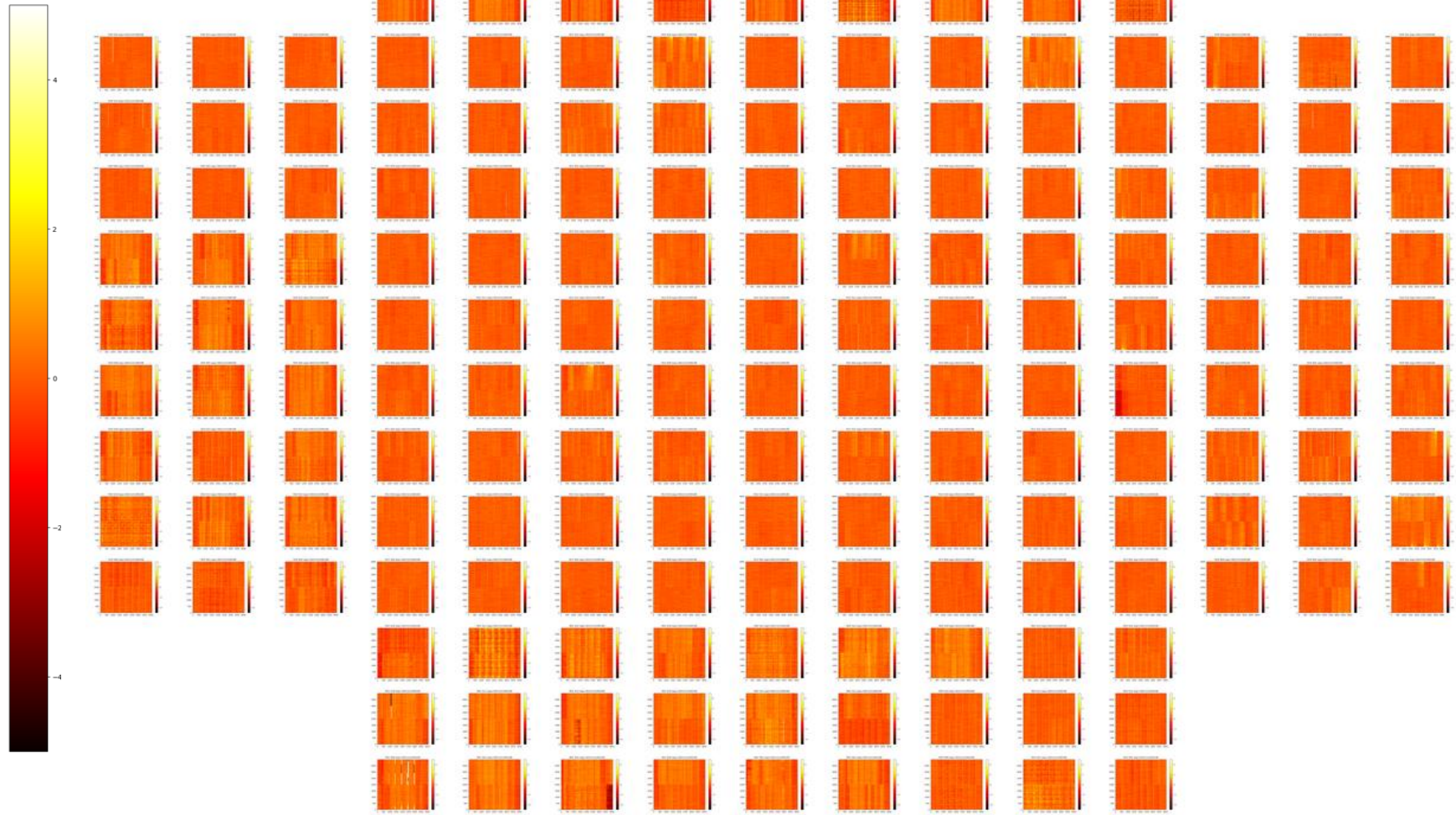


Bias

Run 13161
exp. 146

2D + MB

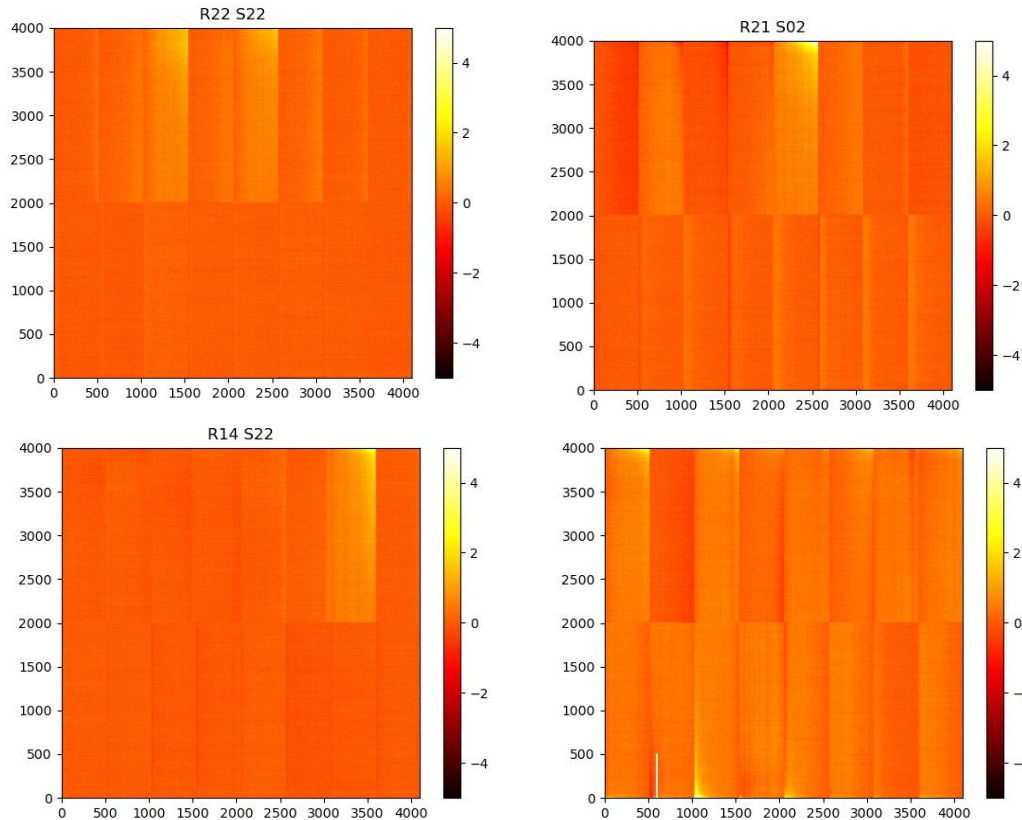
± 5 ADU



Feature 1

Yellow corners in e2v CCDs

Master bias 2D



Master bias subtraction required to correct for these 2D shapes

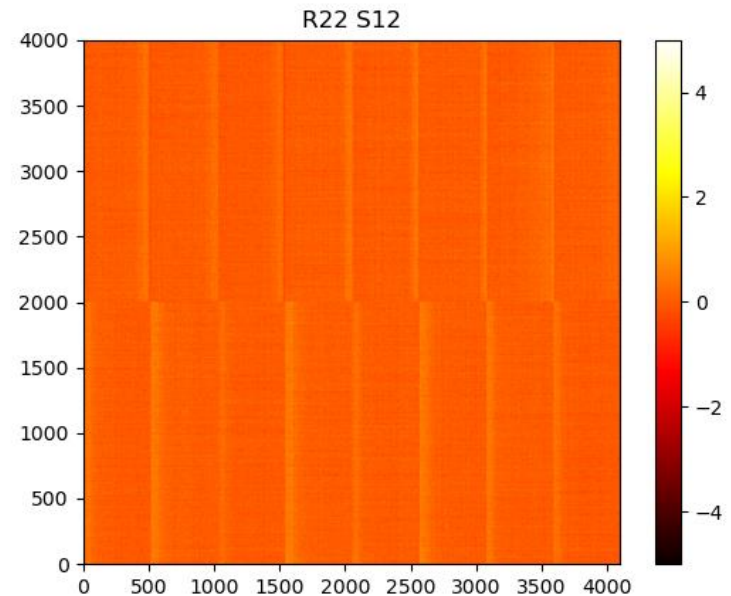
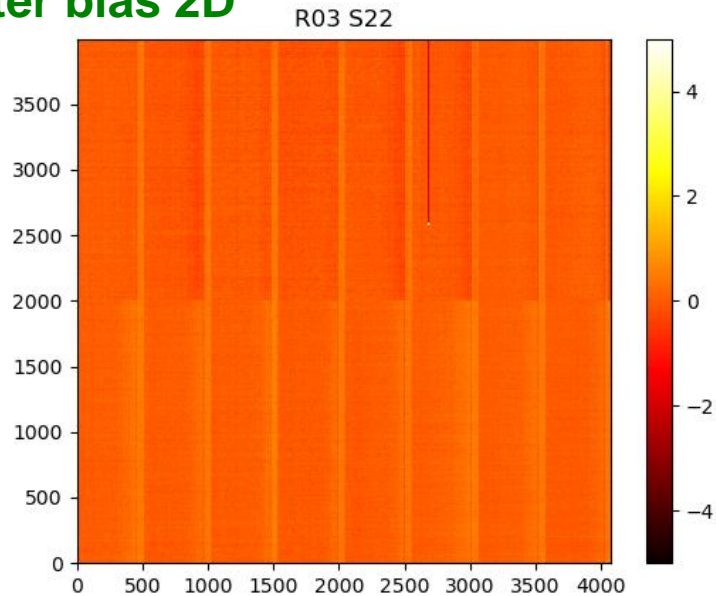


Effect depends on the exposure time

Feature 2

Visible column structure, even after parallel overscan correction

Master bias 2D

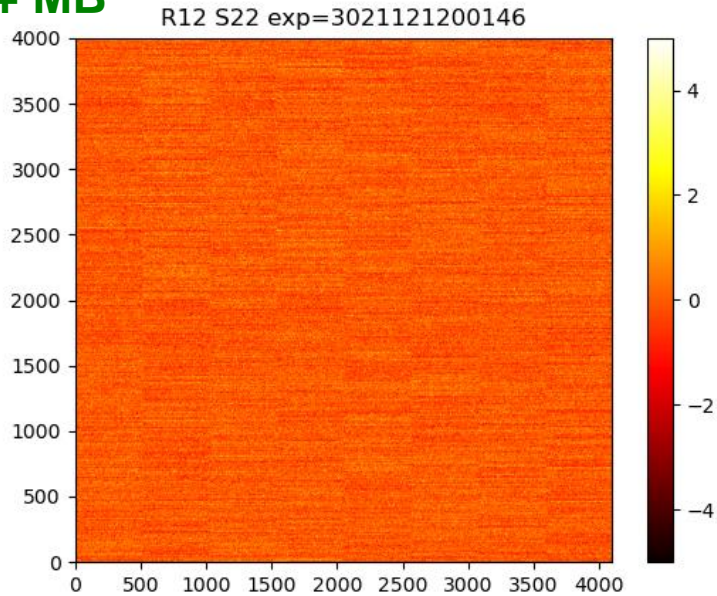


Issue with the parallel overscan correction at the start/end of the line?

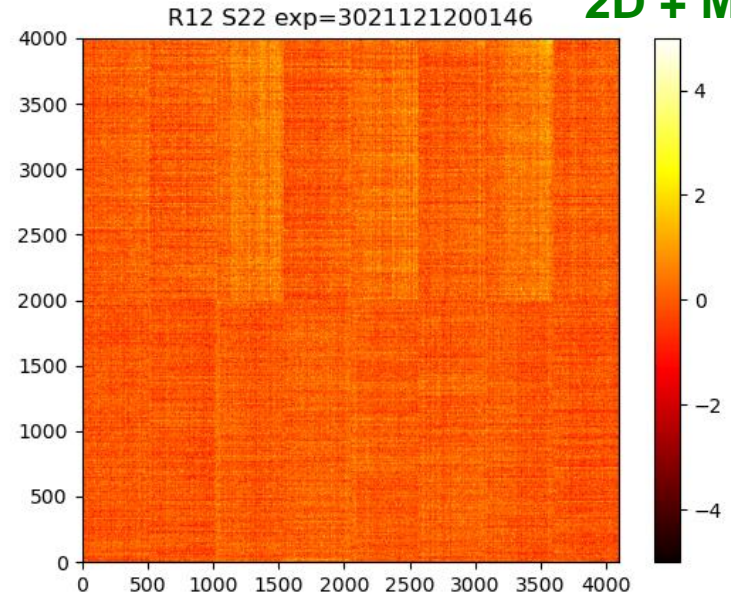
Feature 3

Column-to-column noise

1D + MB



2D + MB

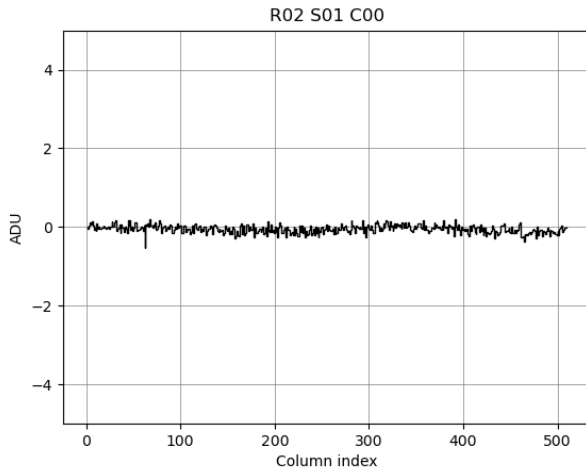


2D should not be applied everywhere

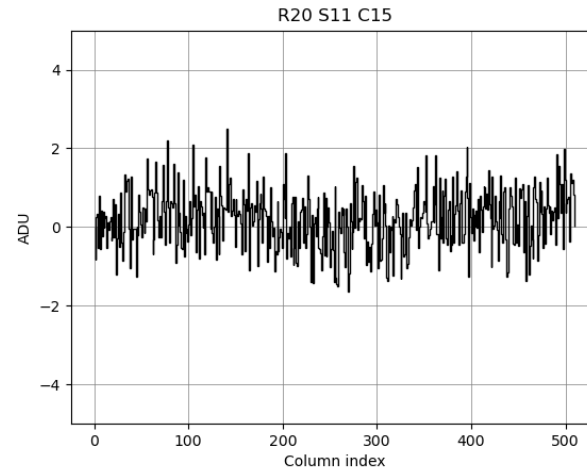
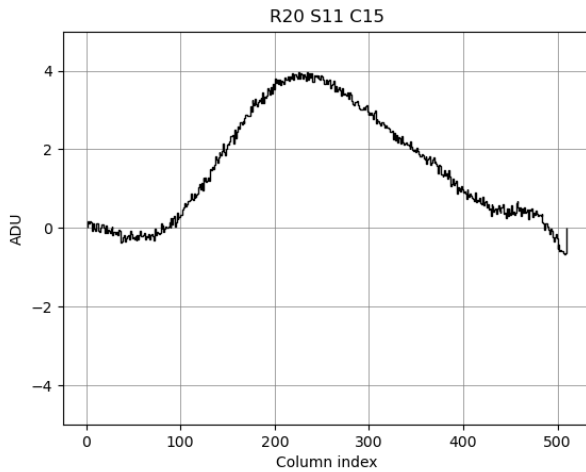
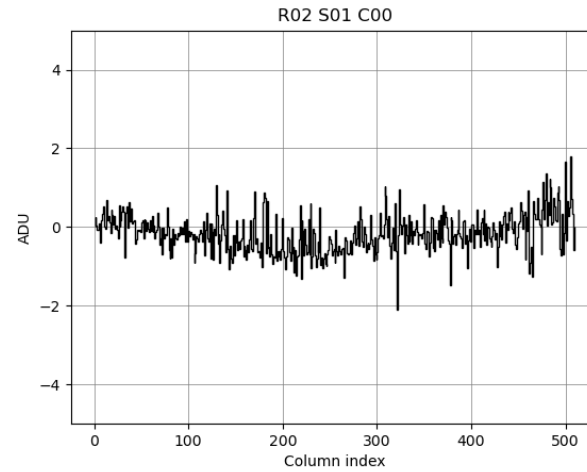
Feature 3

Column-to-column noise

1D + MB



2D + MB



Smoothing required